

IN THE CLAIMS

Please amend the claims as follows:

1. (Currently Amended) A switchable optical element having a first discrete state and a different, second discrete state, the switchable optical element comprising:

a) ~~-----~~ a fluid system including a first fluid and a different, second fluid;

b) ~~-----~~ a wavefront modifier having a face; and

c) ~~-----~~ a fluid system switch for acting on the fluid system to switch between the first and second discrete states of the element,

wherein, when the switchable optical element is in the first discrete state, the face of the wavefront modifier is substantially covered by the first fluid, and

when the element is in the second discrete state, the face of the wavefront modifier is substantially covered by the second fluid,

characterized in that said fluid system switch comprises:

a configuration of electrodes ~~arranged to act for~~ acting on the fluid system by the application of electrowetting forces; and

a voltage control system ~~arranged to control for~~ controlling voltages applied to the configuration of electrodes to switch between the first and second discrete states of the switchable optical element.

2. (Currently Amended) ~~A-The~~ switchable optical element ~~according to as claimed in~~ claim 1, wherein the first fluid is electrically conductive and the second fluid is electrically insulative.

3. (Currently Amended) ~~A-The~~ switchable optical element ~~according to as claimed in~~ claim 2, wherein the first fluid and the second fluid are both liquids.

4. (Currently Amended) ~~A-The~~ switchable optical element ~~according to as claimed in~~ claim 1, wherein the configuration of electrodes includes a first electrode having an operative area, and wherein the face of the wavefront modifier and the operative area of the first electrode are arranged in a substantially overlapping arrangement.

5. (Currently Amended) ~~A-The~~ switchable optical element ~~according to as claimed in~~ claim 1, wherein the configuration of electrodes includes a first electrode, a second electrode, and a common, third electrode,

the voltage control system ~~being arranged to apply~~ applying voltages differently to the first and second electrodes in at least one of the first and the second discrete states of the ~~switchable~~ optical element.

6. (Currently Amended) ~~A-The~~ switchable optical element
according to ~~as claimed in~~ claim 1, ~~comprising~~ wherein the switchable
optical element further comprises:

a chamber in which the face of the wavefront modifier is
located; and

a conduit, the conduit having two ends, each end being
fluidly connected to the chamber at a separate location,

wherein the switchable optical element is arranged such
that, during a transition between the first and second discrete
states of the element, circulatory fluid flow occurs so that fluid
passes from the chamber into the conduit via one of the said two
ends and fluid passes from the conduit into the chamber via the
other of the said two ends.

7. (Currently Amended) ~~A-The~~ switchable optical element
according to ~~as claimed in~~ claim 1, wherein the face of the
wavefront modifier comprises one or more protrusions, the
protrusions being arranged to provide providing a predetermined
wavefront modification on a given radiation beam of predetermined
wavelength when the switchable optical element is in one of said
first and second discrete states.

8. (Currently Amended) ~~A-The~~ switchable optical element
according to ~~as claimed in~~ claim 7, wherein the protrusions are
arranged concentrically about an optical axis.

9. (Currently Amended) ~~A-The~~ switchable optical element ~~according to as claimed in~~ claim 7, wherein the protrusions are linear and arranged parallel each other.

10. (Currently Amended) ~~A-The~~ switchable optical element ~~according to as claimed in~~ claim 7, wherein the protrusions form a diffraction grating.

11. (Currently Amended) ~~A-The~~ switchable optical element ~~according to as claimed in~~ claim 7, wherein the protrusions form a non-periodic stepped profile in a direction transverse to said face.

12. (Currently Amended) ~~A-The~~ switchable optical element ~~according to as claimed in~~ claim 1, ~~comprising~~ wherein said switchable optical element further comprises:

5 a second wavefront modifier face, the switchable optical element having third and fourth discrete states associated with the second face, ~~and~~ and

 a second fluid system including a third fluid and a different, fourth fluid,

10 wherein, when the switchable optical element is in the third discrete state, the second face is substantially covered by the third fluid, and

when the switchable optical element is in the fourth discrete state, the second face is substantially covered by the fourth fluid,

15 | and wherein the voltage control system ~~is arranged to~~
~~control~~controls voltages applied to the configuration of electrodes
to switch between the third and fourth discrete states of the
switchable optical element.

13. (Currently Amended) ~~A~~The switchable optical element
~~according to as claimed in~~ claim 1, wherein the wavefront modifier
comprises a birefringent material.

14. (Currently Amended) ~~A~~The switchable optical element
~~according to as claimed in~~ claim 1, wherein the first and/or second
fluid comprises a liquid crystal material.

15. (Currently Amended) An optical scanning device for scanning
an information layer, the device comprising ~~a~~the switchable
optical element ~~according to as claimed in~~ claim 1, said optical
scanning device comprising:

5 | ~~a)~~-----a radiation source system for emitting a first
radiation beam of a first predetermined wavelength and a second
radiation beam of a second predetermined wavelength; and

~~b)~~-----an objective lens system for converging the
radiation beams on respective information layers,

10 wherein a first predetermined wavefront modification is
provided on the first radiation beam when the switchable optical
element is in the first discrete state, and

 a second predetermined wavefront modification ~~element~~ is
provided on the second radiation beam when the switchable optical
15 element is in the second discrete state.

16. (Currently Amended) ~~An~~ The optical scanning device
~~according to as claimed in~~ claim 15, wherein the first predetermined
wavefront modification at least approximates a spherical aberration
and/or defocus.

17. (Currently Amended) ~~An~~ The optical scanning device
~~according to as claimed in~~ claim 15, wherein the second
predetermined wavefront modification is at least approximately
flat.

18. (Currently Amended) ~~An~~ The optical scanning device
~~according to as claimed in~~ claim 15, wherein the radiation source
system ~~is adapted to emit~~ emits a third radiation beam of a third
predetermined wavelength,

5 and wherein a third predetermined wavefront modification
is provided on the third radiation beam when the switchable optical
element is in the second state.

19. (Currently Amended) ~~An~~The optical scanning device
~~according to as claimed in~~ claim 18, wherein the third predetermined
wavefront modification is either at least approximately flat, or at
least approximates a spherical aberration and/or defocus.